[GIF204] MAN-MACHINE INTERFACE

GENERAL INFORMATION

Studies	DEGREE IN COMPUTER ENGINEERING			**Subject**	PROGRAMMING
Semester	1	**Course**	3	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2017	**Modality**	Adapted Face-to-face	**Language**	ENGLISH
Credits	4,5	**Hours/week**	3.72	**Total hours**	67 class hours + 45.5 non-class hours = **112.5 total hours**

PROFESSORS

VALENCIA PARAFITA, XABIER

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	*(No previous knowledge required)*

SKILLS

VERIFICA SKILLS

SPECIFIC

GICE18 - To be able to define and evaluate person-computer interfaces which ensure accessibility and usability of the information systems, services and applications.

GENERAL

GIGC03 - To be able to design, develop, evaluate and ensure the accessibility, ergonomics, usability and security of computer services, applications and systems and the information they manage.

BASIC

G_CB2 - To be able to apply knowledge to occupational or professional tasks; have the necessary skills to pose and defend arguments, and to solve problems within their field of study

G_CB4 - To be able to communicate information, ideas, problems and solutions to both expert and lay audiences

G_CB5 - To have developed learning abilities required to embark on subsequent studies with a high level of autonomy.

LEARNING RESULTS

RG301 **Assumes responsibilities in the work team, organizing and planning the tasks to be developed, facing the contingencies and encouraging the participation of its members.**

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.	2 h.	4 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	100%	*(No mechanisms)*

Comments: Continuous assessment.

CH - Class hours: 2 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 4 h.

RG302 **Analyze the intervening variables in the problem and propose actions for a stable situation.**

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.	1 h.	3 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	100%	*(No mechanisms)*

Comments: Continuous assessment.

CH - Class hours: 2 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 3 h.

RGI194 **[!]** ***Análisis de los impactos de los ODS en el proyecto realizado***

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.	1 h.	3 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	100%	*(No mechanisms)*

Comments: Continuous assessment.

CH - Class hours: 2 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 3 h.

RG304 **Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in writing.**

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.	2 h.	4 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	100%	*(No mechanisms)*

Comments: Continuous assessment. It may be asked to redo the document.

CH - Class hours: 2 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 4 h.

RG305 **Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in spoken form.**

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.	2 h.	4 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	100%	*(No mechanisms)*

Comments: Continuous assessment.

CH - Class hours: 2 h.

NCH - Non-class hours: 2 h.
TH - Total hours: 4 h.

RGI311 Design and develop multi-device interfaces for data visualization and interaction, based on UCD(User-centered design) techniques and DDD (Data-driven design)

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	9 h.	5 h.	14 h.
Individual study and work, tests and evaluations and check points	2 h.		2 h.
Practices of problem solving and real or simulated context projects	8 h.	6 h.	14 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	10 h.	8 h.	18 h.
Individual and team exercises	7 h.	5 h.	12 h.

EVALUATION SYSTEM	W
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	30%
Written, coding/programming and individual oral tests for the evaluation of technical skills in the field	70%

Comments: Minimum grade: 5

MAKE-UP MECHANISMS

Written, coding/programming and individual oral tests for the evaluation of technical skills in the field

Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.

CH - Class hours: 36 h.
NCH - Non-class hours: 24 h.
TH - Total hours: 60 h.

RGI312 Design, develop and evaluate multi-device interfaces applying usability principles and accessibility standards

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	8 h.	6 h.	14 h.
Individual study and work, tests and evaluations and check points	2 h.		2 h.
Practices of problem solving and real or simulated context projects	3 h.	2 h.	5 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	5 h.	3,5 h.	8,5 h.
Individual and team exercises	3 h.	2 h.	5 h.

EVALUATION SYSTEM	W
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	30%
Written, coding/programming and individual oral tests for the evaluation of technical skills in the field	70%

Comments: Minimum grade: 5

MAKE-UP MECHANISMS

Written, coding/programming and individual oral tests for the evaluation of technical skills in the field

Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.

CH - Class hours: 21 h.
NCH - Non-class hours: 13,5 h.
TH - Total hours: 34,5 h.

CONTENTS

1. Introduction into interactive systems
2. User interfaces design
2.1 Introduction into usability
2.2. User interfaces design principles
2.3. User interfaces design rules

2.4 Introduction into accessibility
2.5 Accessibility standars and rules

3. Frameworks for Multidevice interfaces design and development

3.1 HTML5

3.2 Styles and processors

3.3 Javascript frameworks for interfaces design and development.

4. Multidevice advanced interaction development

1. Events and controls
2. Navigation and interaction
3. Touch control
4. Speech control

5. Adaptative interfaces design and development
5.1 Data visualization design

5.2 Data interaction design

6. User centered design

6.1 Information architecture
6.2 User intefaces evaluation
6.3 Web pages evaluation
6.4. Usability test design and development
6.5. Heuristic test
7. Data 3D visualization

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Moodle Platform Subject notes Technical articles	http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk.pl?grupo=INFORMATICA31&ejecuta=15&